

REVIEW OF CLOSURE COST ESTIMATES FOR
CHEMPRO PIER 91, CHEMPRO GEORGETOWN,
REICHOLD CHEMICALS, AND OCCIDENTAL CHEMICAL

Letter Report

(EPA Contract No. 68-01-6769, Work Assignment No. 85-429)

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SUMMARY

At the request of EPA Region X, GCA has reviewed the closure/post-closure cost estimates for the following hazardous waste facilities: Chemical Processors' (Chempro) Georgetown site in Seattle, WA (EPA ID No. WAD000812909); Chempro's Pier 91 site in Seattle, WA (EPA ID No. WAD000812917); Reichhold Chemicals' Tacoma, WA site (EPA ID No. WAD009252891); and Occidental Chemical's Taconna, WA site (EPA ID No. WAD009242324).

GCA has previously reviewed the closure plans for each of the four facilities, and findings were documented in a separate Letter Report for each facility under this same Assignment. The reader is referred to the previous GCA reports for a description of each site and the closure/post-closure activities. The following cost estimate reviews can be considered as addendums to the closure plan reviews previously submitted to EPA. GCA reviewed each estimate relative to the applicable requirements of 40 CFR 265, Subpart H, §§265.142 and 265.144.

CHEMPRO CLOSURE COST ESTIMATES

The cost estimates reviewed by GCA were contained in the documents "Pier 91 Closure Plan" and "Georgetown Closure Plan". The cost estimates were dated "9/29/85" (Pier 91) and "9/13/85" (Georgetown).

Chempro's closure cost estimates appear to be generally accurate, based on the limited data provided in the closure plans. However, it is not clear whether the estimates comply with 265.142, and the following issues should be resolved:

- Each estimate appears to be based on the actual waste inventory at the time the estimate was prepared. For example, the Pier 91 estimate considers a total volume of about 1 million gallons, of which about 500,000 gallons is reclaimable oil that reduces the cost

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of closure. Section 265.142 requires that the estimate be based on "the point... [which] would make closure most expensive", not the actual waste inventory. Hence, each estimate should consider the worst case scenario, which would probably be a minimum inventory of recyclable materials and a maximum inventory of sludge, residue, or other nonrecycleable materials.

- The estimates include a cost for a "Sampling Procedure and Analysis Plan", but do not appear to include the cost of actual sampling and analysis. It appears that sampling and analysis will be necessary to verify equipment decontamination, and possibly to check for soil/ground water contamination onsite. These activities should be described in the closure plans, and costs for sampling and analysis should be included in the estimates.
- If a better description of the fate of onsite equipment can be provided, as requested by GCA in the closure plan reviews, then the cost of removal or demolition of tanks, piping, and related structures should be included in the estimates.

REICHOLD CHEMICALS CLOSURE AND POST-CLOSURE COST ESTIMATES

The cost estimates reviewed by GCA were contained in the documents "Closure Plan Cost Estimate... November 1985" and "Post-Closure Plan... November 1985" (Exhibit A). These estimates are extremely comprehensive, and appear to satisfy the Subpart H requirements. GCA's closure plan review indicates that Reichhold has failed to describe closure of the northward extension of the spoil area. When this issue is addressed, the cost estimates should be revised to include the appropriate costs.

OCCIDENTAL CHEMICAL CLOSURE COST ESTIMATE

The cost estimate reviewed by GCA was contained in the document "Closure Plans for Hazardous Waste Storage and Treatment Facilities... Occidental Chemical Corporation, Tacoma, Washington" dated "3-85".

This estimate is extremely comprehensive, but contains several numerical errors and may have overlooked several minor points. GCA found the following problems with this cost estimate:

- The estimate generally fails to address decontamination/disposal of solid waste handling equipment. For example, the exterior of waste hauling trucks should be decontaminated after loading, and hauling and digging equipment must be decontaminated after site closure.

- The estimate contains several errors in adding individual costs: the waste pile total cost should be about \$25,000, rather than \$28,700; the drum container total cost should be about \$111,200, rather than \$89,000; the rail car container total cost should be about \$140,400, rather than \$127,300; and the neutralization cost should be about \$7700, rather than 7900.
- The rail car and/or decanting costs do not include an estimated cost for solidification and disposal of solution drained from transfer lines, nor is this process sufficiently described in the closure plan (see GCA's closure plan review).
- The rail car cost is extremely sensitive to the volume of waste material to be incinerated, but no justification was given for the value of 9000 gallons used in the estimate, which is much less than the stated storage capacity of 45,000 gallons.
- The neutralization cost does not include the cost of analyzing piping for chlorinated hydrocarbon content, nor does it include the cost of treating waste water generated by flushing the system.